

AMENDMENTS TO THE CLAIMS

The following listing of claims will replace all prior versions and listings of claims in the application.

LISTING OF CLAIMS

65-124. (Cancelled).

125. (Currently Amended) An array of light emitting diodes adapted for use in curing ink in an ink jet printer according to claim 145.

126. (Currently Amended) A radiation source for use in curing fluid in a printer, the source comprising an array of LEDs, wherein the array of LEDs comprises a plurality of adjacent rows of LEDs each row comprising a plurality of LEDs arranged in a row direction, wherein a row of LEDs is offset from an adjacent row of LEDs in a direction substantially parallel to the row direction.

127. (Currently Amended) A radiation source according to claim 126 wherein the adjacent rows of LEDs are offset so that ~~there are substantially no lines of LEDs extending at an angle~~ adjacent LEDs in the adjacent rows do not align in a direction substantially perpendicular to the rows of LEDs.

128. (Previously Presented) A radiation source according to claim 126, wherein the source comprises N rows of LEDs, the LEDs of each row having a pitch of w along the row direction, and wherein each row of LEDs is offset by Yw/N from an adjacent row, wherein Y, w and N are integers.

129. (Previously Presented) A radiation source according to claim 126, wherein the source is adapted to emit UV radiation.

130. (Previously Presented) A radiation source according to claim 126, wherein the source is elongate.

131. (Previously Presented) A radiation source according to claim 126, including means for varying the power of the radiation source.

132. (Previously Presented) A radiation source according to claim 126, adapted to cure ink in an ink jet printer.

133. (Currently Amended) Apparatus for use in curing radiation-curable fluid, the apparatus comprising a radiation source comprising an array of LEDs, wherein the array of LEDs comprises a plurality of adjacent rows of LEDs, each row comprising a plurality of LEDs, wherein a row of LEDs is offset from an adjacent row of LEDs in a direction along a row.

134. (Withdrawn) Apparatus according to claim 133, further including a device for providing an inerting environment in the region of the radiation source.

135. (Withdrawn) Apparatus according to claim 134, including a gas source, for example of reduced oxygen gas, or nitrogen gas.

136. (Withdrawn) Apparatus according to claim 134, further including a shroud in the region of the radiation source.

137. (Withdrawn) Apparatus according to claim 134 including a cavity, the source being mounted in the cavity, the apparatus including a device for positively pressurising the cavity.

138. (Previously Presented) Apparatus according to claim 133, further including a device for cooling the radiation source.

139. (Withdrawn) Apparatus according to claim 133, further including a printhead, wherein the arrangement is such that the inerting environment is not provided in the region of the printhead.

140. (Currently Amended) A printer for use in printing a printing fluid onto a substrate, the printer comprising a radiation source for curing the fluid, wherein the printer is arranged to provide relative movement between the radiation source and the substrate in a curing direction during the curing operation, wherein the radiation source comprises ~~a plurality~~ an array of radiation-emitting elements ~~in an array, the arrangement of the elements in the array being such that there are not aligned in a column substantially aligned with the curing direction,~~ wherein the radiation-emitting elements are arranged in a plurality of rows and such that an element of the radiation-emitting elements is not aligned in the curing direction with any adjacent elements of the radiation-emitting elements.

141. (Currently Amended) A printer according to claim 140 wherein the array comprises a plurality of adjacent rows of elements, wherein a row of elements is offset from an adjacent row of elements in a direction substantially perpendicular to the cure direction.

142. (Currently Amended) A printer according to claim 140 wherein the adjacent rows of elements are offset so that ~~there are substantially no lines of elements extending at an angle~~ adjacent elements in the adjacent rows do not align in a direction substantially perpendicular to the rows of elements.

143. (Previously Presented) A printer according to claim 140, wherein the source comprises N rows of elements, the elements of each row having a pitch of w

along the row direction, and wherein each row of elements is offset by Yw/N from an adjacent row, wherein Y , w and N are integers.

144. (Previously Presented) A printer according to claim 140, wherein the source is adapted to emit UV radiation.

145. (Previously Presented) A printer according to claim 140, wherein elements of the source comprise light emitting diodes.

146. (Previously Presented) A printer according to claim 140, wherein the source is elongate.

147. (Previously Presented) A printer according to claim 140, including means for varying the power of the radiation source.

148. (Withdrawn) A printer according to claim 140, further including a device for providing an inerting environment in the region of the radiation source.

149. (Withdrawn) A printer according to claim 140, including a gas source, for example of reduced oxygen gas, or nitrogen gas.

150. (Withdrawn) A printer according to claim 140, further including a shroud in the region of the radiation source.

151. (Withdrawn) A printer according to claim 140 including a cavity, the source being mounted in the cavity, the apparatus including a device for positively pressurising the cavity.

152. (Withdrawn) A printer according to claim 148, further including a printhead, wherein the arrangement is such that the inerting environment is not provided in the region of the printhead.

153. (Previously Presented) A printer according to claim 140, the elements being such that wherein at least 90% of the radiation emitted has a wavelength in a band having a width of less than 50nm.

154. (Previously Presented) A printer according to claim 140, wherein the fluid is ink.

155. (Currently Amended) Apparatus for use in curing radiation-curable fluid in a printer, the apparatus comprising a radiation source comprising an array of radiation-emitting elements, wherein the array of radiation-emitting elements comprises a plurality of adjacent rows of elements, each row comprising a plurality of elements, wherein a row of elements is offset from an adjacent row of elements in a direction substantially parallel to a row.

156. (Currently Amended) Apparatus according to claim 155 wherein the adjacent rows of elements are offset so that ~~there are substantially no lines of elements extending at an angle~~ adjacent elements in the adjacent rows do not align in a direction substantially perpendicular to the rows of elements.

157. (Previously Presented) Apparatus according to claim 155, wherein the source comprises N rows of elements, the elements of each row having a pitch of w along the row direction, and wherein each row of elements is offset by Yw/N from an adjacent row, wherein Y, w and N are integers.

158. (Previously Presented) Apparatus according to claim 155, wherein the source is adapted to emit UV radiation.

159. (Previously Presented) Apparatus according to 155, the elements being such that wherein at least 90% of the radiation emitted has a wavelength in a band having a width of less than 50nm.

160. (Previously Presented) Apparatus according to 155, wherein the elements comprise light emitting diodes.

161. (Previously Presented) Apparatus according to claim 155, wherein the source is elongate.

162. (Previously Presented) Apparatus according to claim 155, including means for varying the power of the radiation source.

163. (Withdrawn) Apparatus according to claim 155, further including a device for providing an inerting environment in the region of the radiation source.

164. (Withdrawn) Apparatus according to claim 155, including a gas source, for example of reduced oxygen gas, or nitrogen gas.

165. (Withdrawn) Apparatus according to claim 155, further including a shroud in the region of the radiation source.

166. (Withdrawn) Apparatus according to claim 155 including a cavity, the source being mounted in the cavity, the apparatus including a device for positively pressurising the cavity.

167. (Previously Presented) Apparatus according to claim 155, further including a device for cooling the radiation source.

168. (Withdrawn) Apparatus according to claim 163, further including a printhead, wherein the arrangement is such that the inerting environment is not provided in the region of the printhead.

169. (Currently Amended) A radiation source for use in curing a fluid in a printer, the source including an array of radiation-emitting elements, wherein the elements are arranged in a plurality of rows of elements, wherein the elements of the in ~~the array~~ are in a non-rectangular arrangement.

170. (New) A radiation source for use in curing fluid in a printer, the source comprising an array of LEDs, wherein the array of LEDs comprises N adjacent rows of LEDs, the LEDs of each row having a pitch of w along the row direction, and wherein each row of LEDs is offset by Yw/N from an adjacent row, wherein Y, w and N are integers.

171. (New) A printer for use in printing a printing fluid onto a substrate, the printer comprising a radiation source for curing the fluid, wherein the printer is arranged to provide relative movement between the radiation source and the substrate in a curing direction during the curing operation, wherein the radiation source comprises a plurality of radiation-emitting elements in an array, the arrangement of the elements in the array being such that they are not aligned in a column substantially aligned with the curing direction, wherein the source comprises N rows of elements, the elements of each row having a pitch of w along the row direction, and wherein each row of elements is offset by Yw/N from an adjacent row, wherein Y, w and N are integers.

172. (New) Apparatus for use in curing radiation-curable fluid in a printer, the apparatus comprising a radiation source comprising an array of radiation-emitting elements, wherein the array of radiation-emitting elements comprises N adjacent rows of elements, wherein the source comprises N rows of elements, the elements of each row having a pitch of w along the row direction, and wherein each row of elements is offset by Yw/N from an adjacent row, wherein Y, w and N are integers.